(e) ISSN Online: 2321-9599
(p) ISSN Print: 2348-6805

ORIGINAL ARTICLE

PROFILING OF THE DEMOGRAPHIC FACTORS OF ORAL CANCER IN WEST INDIA: AN EPIDEMIOLOGICAL STUDY

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ABSTRACT:
Aim: The core purpose of the study was to profile the demographic and pre-disposing factors linked with the occurrence of oral cancer in West India. **Materials & Method:** This was a retrospective work undertaken in the year 2015 on 368 cases of oral cancer which were diagnosed and confirmed with the help of golden standard biopsy followed by a thorough histopathological examination. The divisions were made based on criteria including age, sex, socio-economic status, habits, site and staging of the disease. **Results:** Out of the 368 cases of oral cancer, the youngest patient was 17 years old and the oldest being 69 years old. The male: female ratio was 4.04: 1. About 73.36% of the cancer cases were seen amongst the lower and lower-middle class group. Around 94.57% of the subjects consumed tobacco in one way or the other. About 45.10% of the lesions were seen in the lower alveolus which is the most common site of the lesion. The majority of the cases were classified in stage II and the least were observed in stage III. **Conclusions:** The core purpose of the study was to profile the demographic and pre-disposing factors linked with the occurrence of oral cancer in West India. The results showed that the pathology was common in the middle-aged people with a high dependence on tobacco. A collection of more data from different parts of the country is necessary to come to a more definite association of all the factors to oral cancer.
Key words: Oral Cancer; Epidemiology; Profiling; Demographic Factors

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This article may be cited as: Makadia N, Raval C, Vyas K, Hussain SN, Shah A. Profiling of the demographic factors of oral cancer in West India: An epidemiological study. J Adv Med Dent Scie Res 2016;4(5):48-50.

Access this article online	
Quick Response Code	Website: www.jamdsr.com
	DOI: 10.21276/jamdsr.2016.4.5.13

INTRODUCTION:

Amongst all other oral pathologies, cancer is a lifetime menacing disease. Being a portion of the sector of head and neck cancer, it may ascend as a preliminary pathology in whicheverfragment of the oral cavity or may affect the oral cavity via metastasis from a different site. A variegated amount of environmental factors intermixed with the demographic aspects has been acknowledged as the possible etiological factors for oral cancers Oral cancers have a momentous influence on the quality of the subject's life since the immense loss of function renders the patient traumatized. It has been recognized widely as the 11th most common carcinoma in the world.[1]The majority of the cases have been detectedin the south-eastern regions of the Asian continent.[2] The etiology of the oral carcinoma is attributed to a variety of factors.[3]. While the tongue is the common site for oral cancer in the western countries, the lower alveolar ridge is the common site for oral cancer in India.[4] In India, oral cancer accounts for 30% of the total new cases of carcinoma, with a huge predominance towards males.[5]Thestatistics from numerous studies around the world have demonstrated that smoke and smokeless tobacco products play the primary etiological role for causing oral carcinoma.[6]Moreover, it has also been established that the consumption of alcoholic drinks along with tobacco chewing widely upsurges the risk of developing oral cancer.[7] The drive of our retrospective study was to examine the demographic factors associated with oral cancer in West India.

AIM: The core purpose of the study was to profile the demographic and pre-disposing factors linked with the occurrence of oral cancer in West India.

MATERIALS & METHOD: The retrospective study done and conducted on 368 cases of oral cancer is a collection of data from numerous government and private hospitals. All the cases were confirmed with the

histopathological examination after biopsy. The study was performed during the period of January 2015 to September 2015. A carefully designed questionnaire was handed over to all the participating subjects after the committee perceived it to be justified. The questionnaire focused on numerous criteria including age, sex, socio-economic status, habits, site and staging of the disease. The data collected was checked again by the investigators to avoid any sort of discrepancy in the results. The subjects were fully aware of the study and were informed that a complete confidentiality will be maintained with respect to the personal information of the patients. Those patients who refused to be a part of the study were exempted. Anarithmetical analysis was prepared on the basis of the data obtained and the results were framed.

RESULTS: The 368 cases of cancer studied in western part of India were divided into the following criteria

- Age
- Sex
- Socio-economic status
- Habits
- Site of Lesion
- Stage of Disease

Age: The age group most commonly linked to oral cancer based on the findings is 41-50 years. The distribution of thesubjects based on the age group is depicted in table 1. About 46.73% of the patients are younger than the age of 40 years and the remaining 53.27% of the patients are older than the age of 40 years. The youngest patient was 17 years old and the oldest being 69 years old.

Table 1: Distribution of cases based on age of the subjects

AGE GROUP	CASES
11-20	13
21-30	72
31-40	87
41-50	89
51-60	52
60+	55

Sex: On the basis of the demarcation of the subjects on the gender, about 80.16% of the subjects suffering from oral cancer were male and 19.84% of the subjects were female. The male: female ratio is 4.04: 1.

Table 2: Distribution of cases based on sex of the subjects

SEX	CASES
MALES	295
FEMALES	73

Socio-economic status: Considering the per capita income appropriately in different places, the category is divided into four sectors namely: Upper class, Upper-middle class, Lower-middle class and the Lower class. About 73.36% of the cancer cases were seen amongst the lower and lower-middle class group while the rest 26.64% of the cancer cases were seen amongst the upper and upper-middle class group.

Table 3: Distribution of cases based on socio-economic status of the subjects

CLASS	CASES
Upper	45
Upper-Middle	53
Lower-Middle	111
Lower	159

Habits: The subjects in the study were divided into four sectors depending upon the tobacco intake habits. The sectors comprised of tobacco chewing, tobacco smoking, both and none. Only 5.43% of the subjects suffering from cancer were free of consuming any form of tobacco; however, rest 94.57% of the subjects consumed tobacco in one way or the other.

Table 4: Distribution of cases based on habit of the subjects

HABIT	CASES
Tobacco Chewing	155
Tobacco Smoking	52
Both	141
None	20

The site of Lesion: Table 5 is a detailed collection of the distribution of the cases depending on the site of the lesion. About 45.10% of the lesions were seen in the lower alveolus which is the most common site of the lesion. About 01.35% of the lesions were seen on the lips which appear to be the least common site of the lesion.

Table 5: Distribution of cases based on site of the lesion

SITE	CASES
Upper Alveolus	21
Lower Alveolus	166
Buccal Mucosa	82
Tongue	67
Mouth Floor	20
Lips	5
Palate	7

Stage of Disease: Based on the TNM staging, the patients were divided into three stages. Table 6 shows the demarcation of the cases based on the stage of the pathology. The majority of the cases were classified in stage II and the least were observed in stage III.

Table 6: Distribution of cases based on site of the lesion

STAGE OF DISEASE	CASES
Stage I	110
Stage Ii	203
Stage Iii	45

DISCUSSION: It is fairly clear to the human race that the incidence and prevalence of oral cancer are captivating anenormous toll. It is imperative to understand the epidemiological as well as the demographic factors associated with oral cancer to stand a better chance of diagnosing the pathology. A timely diagnosis is undeniably essential in order to achieve better prognosis following the treatment protocol. A late diagnosis is the core reason for the hike in morbidity and mortality. In the study, the age group mostly commonly linked to oral cancer based on the findings is 41-50 years. The distribution of the cases based on the age group was depicted in table 1. About 46.73% of the patients were younger than the age of 40 years. However, according to SEER program at the United States of America, the average age of diagnosis of oral carcinoma is 65 years.[8] Our study concludes that the male: female ratio is 4.04: 1. Most studies around the world have concluded the high predominance of the disease owing to the fact that males have a predilection for the development of the tobacco dependence. However, a survey conducted by Pinholt and his associates had an equal male to female ratio.[9]

In the study about 73.36% of the cancer cases were seen amongst the lower and lower-middle class group while the rest 26.64% of the cancer cases were seen amongst the upper and upper-middle class group. This has been supported by numerous studies one of which was done by Warnakulasuriya.[10]About 41 studies which included over 15,000 cases concluded that people with lower income and belonging to a low socio-economic status were more prone to oral cancer. In the study, only 5.43% of the subjects suffering from cancer were free of consuming any form of tobacco; however, rest 94.57% of the subjects consumed tobacco in one way or the other. Literature backed by enormous studies has shown that tobacco has been associated with the occurrence of oral carcinoma for many decades. A study by a group of British doctors suggests that smokers are plummeting the life expectancy by 7.5 years, regardless of the kind of tobacco smoked and the quantity of day to day intake.[11] The presence of tar in tobacco is accountable for the initiation and progress of cancer, not restricted to oral cavity but also affecting the human lungs.

In the study, about 45.10% of the lesions were seen in the lower alveolus which is the most common site of the lesion. About 01.35% of the lesions were seen on the lips which appear to be the least common site of lesion.

The several conducted epidemiological surveys have revealed that the positions of existence for oral cancer diverge broadly. Based on the TNM staging, the majority of the cases in the study were classified in stage II and the least were observed in stage III.

CONCLUSION: The core purpose of the study was to profile the demographic and pre-disposing factors linked with the occurrence of oral cancer in West India. The results showed that the pathology was common in the middle-aged people with a high dependence on tobacco. The collection of more data from different parts of the country is necessary to come to a more definite association of all the factors to oral cancer.

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Source of support: Nil **Conflict of interest:** None declared